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Sughrue Mion Zinn MacPeak & Seas PLLC  
2100 Pennsylvania Avenue N W  
Washington, DC 20037-3213

EXAMINER

SWERDLOW, DANIEL

ART UNIT PAPER NUMBER

2644

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/707,975

Applicant(s)

REUSENS, PETER PAUL FRANS

Examiner

Daniel Swerdlow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-7,9-16 and 18-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-6,9-13,16,18-23 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 7,14,15 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. Applicant's amendment filed on 17 June 2004 has overcome the rejections under 35 USC 112, second paragraph made in the prior Office action mailed on 5 May 2004.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 2, 4 through 6, 9, 11 through 13, 18, 19 and 21 through 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Freimanis and further in view of Balachandran et al. (US Patent 6,324,268).
4. Regarding Claim 5, applicant discloses as prior art a telephone system wherein analog telephone signals are frequency multiplexed with digital data signals for transmission over a line (p. 1, lines 23). Therefore, applicant admits as prior art all elements except an incoming call being announced by a ringing indication signal having a voltage amplitude less than 30 V RMS and having no detectable components in the frequency band for digital data signals. Freimanis discloses use of an audio tone alerting (i.e., ringing indication) signal in the same voltage range as voice signals (column 1, lines 18-21) which applicant admits have a voltage amplitude less than 1V RMS (p. 1, lines 30-32). It would have been obvious to one skilled in the art at the time of the invention to apply tone alerting as taught by Freimanis to the telephone system admitted as prior art for the purpose of avoiding the danger and potential damage due to high voltage signals. Therefore, the combination of admitted prior art and Freimanis makes obvious all elements

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except the ringing indication signal having no detectable components in the frequency band for digital data signals. Balachandran discloses increasing the start frequency of the data frequency band when a ring tone is detected (i.e., restricting the digital data band to avoid components of ringing indication) (column 9, lines 17-33). It would have been obvious to one skilled in the art at the time of the invention to apply start frequency increasing as taught by Balachandran to the combination of prior art and Freimanis for the purpose of reducing interaction of transmissions in the voice band with transmissions in the data band.

5. Claim 12 is essentially similar to Claim 5 and is rejected on the same grounds.

6. Regarding Claim 22, as stated above apropos of Claim 1, applicant admits as prior art all elements except the ringing signal generation means. Freimanis discloses a tone ringer (Fig., reference 30; column 3, lines 59-63) that responds to the tone alerting signal by producing an output that activates an 86 volt electromechanical ringer. It would have been obvious to one skilled in the art at the time of the invention to apply tone alerting to higher voltage ringing conversion as taught by Freimanis to the telephone system admitted as prior art for the purpose of being able to use a single device for both forms of alerting. Therefore, the combination of admitted prior art and Freimanis makes obvious all elements except the ringing indication signal having no detectable components in the frequency band for digital data signals. Balachandran discloses increasing the start frequency of the data frequency band when a ring tone is detected (i.e., restricting the digital data band to avoid components of ringing indication) (column 9, lines 17-33). It would have been obvious to one skilled in the art at the time of the invention to apply start frequency increasing as taught by Balachandran to the combination of prior art and

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Freimanis for the purpose of reducing interaction of transmissions in the voice band with transmissions in the data band.

7. Regarding Claim 2, as shown above apropos of Claim 5, the combination of admitted prior art, Freimanis and Balachandran makes obvious the audio tone alerting (i.e., ringing indication) signal having a voltage amplitude less than 20 V RMS.

8. Regarding Claim 4, the combination of admitted prior art, Freimanis and Balachandran does not disclose expressly the ringing indication signal having a voltage amplitude higher than 10 V RMS. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize a ringing indication signal having a voltage amplitude higher than 10 V RMS. Applicant has not disclosed that a ringing indication signal having a voltage amplitude higher than 10 V RMS provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a voltage amplitude in the range of several volts because this is within the normal amplitude of telephone line signals. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of admitted prior art, Freimanis and Balachandran to obtain the invention as specified in Claim 4.

9. Regarding Claim 6, as stated above apropos of Claim 5, the combination of admitted prior art, Freimanis and Balachandran is shown to make obvious all elements except the ringing indication signal having a frequency lower than the frequency of analog telephone signals. Freimanis further discloses bursting the audio tone alerting signal at 20 Hertz (i.e., a frequency lower than the frequency of analog telephone signals) (column 4, lines 5-11). It would have been obvious to one skilled in the art at the time of the invention to apply 20 Hertz bursting as taught

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by Freimanis to the telephone system admitted as prior art for the purpose simulating the sound of a high voltage alerting signal.

10. Claim 9 is essentially similar to Claim 2 and is rejected on the same grounds.

11. Claim 11 is essentially similar to Claim 4 and is rejected on the same grounds.

12. Claim 13 is essentially similar to Claim 6 and is rejected on the same grounds.

13. Regarding Claim 18, Freimanis further discloses use of an audio tone alerting (i.e., ringing indication) signal in the same voltage range as voice signals (column 1, lines 18-21) which applicant admits have a voltage amplitude less than 1V RMS (p. 1, lines 30-32). It would have been obvious to one skilled in the art at the time of the invention to apply tone alerting as taught by Freimanis to the combination of admitted prior art, Freimanis and Balachandran for the purpose of avoiding the danger and potential damage due to high voltage signals.

14. Regarding Claim 19, as shown above apropos of Claim 12, the combination of admitted prior art, Freimanis and Balachandran makes obvious the audio tone alerting (i.e., ringing indication) signal having a voltage amplitude less than 20 V RMS.

15. Regarding Claim 21, the combination of admitted prior art, Freimanis and Balachandran does not disclose expressly the ringing indication signal having a voltage amplitude higher than 10 V RMS. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize a ringing indication signal having a voltage amplitude higher than 10 V RMS. Applicant has not disclosed that a ringing indication signal having a voltage amplitude higher than 10 V RMS provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a voltage amplitude in the range of several

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volts because this is within the normal amplitude of telephone line signals. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of admitted prior art, Freimanis and Balachandran to obtain the invention as specified in Claim 21.

16. Regarding Claim 23, as stated above apropos of Claim 22, the combination of admitted prior art, Freimanis and Balachandran is shown to make obvious all elements except the ringing indication signal having a frequency lower than the frequency of analog telephone signals.

Freimanis further discloses bursting the audio tone alerting signal at 20 Hertz (i.e., a frequency lower than the frequency of analog telephone signals) (column 4, lines 5-11). It would have been obvious to one skilled in the art at the time of the invention to apply 20 Hertz bursting as taught by Freimanis to the telephone system admitted as prior art for the purpose simulating the sound of a high voltage alerting signal.

17. Claims 3, 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Freimanis and further in view of Balachandran and further in view of Malerba et al. (US Patent 4,189,626).

18. Regarding Claim 3, as shown above apropos of Claim 5, the combination of admitted prior art, Freimanis and Balachandran makes obvious all elements except the ringing indication signal having a voltage amplitude higher than 1 V RMS. Malerba discloses a call (i.e., ringing indication) signal in the range of several volts (column 5, lines 40-43). It would have been obvious to one skilled in the art at the time of the invention to apply a call signal in the range of several volts as taught by Malerba to the combination of admitted prior art, Freimanis and

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Balachandran for the purpose of utilizing the combination in a telephone system that employed such a call signal.

19. Claim 10 is essentially similar to Claim 3 and is rejected on the same grounds.

20. Regarding Claim 20, as shown above apropos of Claim 22, the combination of admitted prior art, Freimanis and Balachandran makes obvious all elements except the ringing indication signal having a voltage amplitude higher than 1 V RMS. Malerba discloses a call (i.e., ringing indication) signal in the range of several volts (column 5, lines 40-43). It would have been obvious to one skilled in the art at the time of the invention to apply a call signal in the range of several volts as taught by Malerba to the combination of admitted prior art, Freimanis and Balachandran for the purpose of utilizing the combination in a telephone system that employed such a call signal.

21. Claims 16 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Freimanis and further in view of Balachandran and further in view of Williamson et al. (US Patent 6,477,249) and further in view of Russell et al. (US Patent 5,757,803).

22. Regarding Claim 16, as shown above apropos of Claim 5, the combination of admitted prior art, Freimanis and Balachandran makes obvious all elements except the use of low-order filters in the splitter. Williamson discloses use of a 2<sup>nd</sup> order low pass filter in a DSL splitter (column 6, line 66 through column 7, line 2). It would have been obvious to one skilled in the art at the time of the invention to apply a low order low pass filter as taught by Williamson to the combination of admitted prior art, Freimanis and Balachandran for the purpose of reducing



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impedance transformation. Russell discloses use of a 1<sup>st</sup> order high pass filter in a DSL splitter (column 4, lines 34-36). It would have been obvious to one skilled in the art at the time of the invention to apply a low order high pass filter as taught by Russell to the combination of admitted prior art, Freimanis and Balachandran for the purpose of attenuating POTS signaling voltages.

23. Regarding Claim 26, as shown above apropos of Claim 22, the combination of admitted prior art, Freimanis and Balachandran makes obvious all elements except the use of low-order filters in the splitter. Williamson discloses use of a 2<sup>nd</sup> order low pass filter in a DSL splitter (column 6, line 66 through column 7, line 2). It would have been obvious to one skilled in the art at the time of the invention to apply a low order low pass filter as taught by Williamson to the combination of admitted prior art, Freimanis and Balachandran for the purpose of reducing impedance transformation. Russell discloses use of a 1<sup>st</sup> order high pass filter in a DSL splitter (column 4, lines 34-36). It would have been obvious to one skilled in the art at the time of the invention to apply a low order high pass filter as taught by Russell to the combination of admitted prior art, Freimanis, Balachandran and Russell for the purpose of attenuating POTS signaling voltages.

24. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Freimanis and further in view of Balachandran and further in view of Birck (US Patent 3,591,728). As shown above apropos of Claim 5, the combination of admitted prior art, Freimanis and Balachandran makes obvious all elements except switching means for isolating the telephone port from the line port when a ringing signal is applied to the telephone port. Birck

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discloses relay contacts (i.e., switching means) (Fig., references 13a, 13b; column 5, lines 7-34) that isolate a telephone apparatus and local ringing generator from a carrier terminal connection during ringing. It would have been obvious to one skilled in the art at the time of the invention to apply local ringing voltage isolation as taught by Birck to the combination of admitted prior art, Freimanis and Balachandran for the purpose of preventing the locally generated ringing voltage from interfering with the operation of a subscriber interface.

25. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Freimanis and further in view of Balachandran and further in view of Tate et al. (US Patent 6,400,803). As shown above apropos of Claim 5, the combination of admitted prior art, Freimanis and Balachandran makes obvious all elements except switching means for disconnecting the digital data signal port from the line port when improper power is detected. Tate discloses a switch (i.e., switching means) (Fig. 3, reference 301; column 4, lines 50-54) that isolates a DSL Modem from the subscriber line. It would have been obvious to one skilled in the art at the time of the invention to apply digital equipment disconnection as taught by Tate to the combination of admitted prior art, Freimanis and Balachandran for the purpose of preventing the digital equipment from interfering with the lifeline operation of POTS equipment.

***Allowable Subject Matter***

Claims 7, 14, 15, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claim 7, as shown above apropos of Claims 5 and 6, the prior art makes obvious low-voltage ringing signals with frequencies in and below the voice band. Further in the case of telephone carrier systems, as illustrated by, for example, by US Patent 4,197,433 to Bronner, alerting signals are known to be conveyed at frequencies above the voice band. However, the use of a single frequency out of a set of data carriers for conveying an alerting signal is neither anticipated nor made obvious by the prior art. As such, Claim 7 is allowable matter.

Claims 14 and 24 are allowable for the same reasons as Claim 7.

Regarding Claim 15, as shown above apropos of Claim 5, the prior art makes obvious a terminal that responds to either high amplitude or low amplitude alerting signals. However, the selection of an alerting signal amplitude based on data activity is neither anticipated nor made obvious by the prior art. As such, Claim 15 is allowable matter.

### ***Response to Arguments***

26. Applicant's arguments filed 17 June 2004 have been fully considered but they are not persuasive.

27. Applicant argues that the cited prior art fails to teach or suggest a ringing indication signal with a voltage amplitude less than 30 V RMS and/or lacking detectable components in the frequency band for digital data signals. Applicant makes this argument in the response filed on 17 June 2004 spanning pages 11 and 12 with respect to Claim 5, spanning pages 13 and 14 with respect to Claim 12, in the third paragraph on page 14 with respect to Claim 22, spanning pages 15 and 16 with respect to Claim 3, in the first paragraph on page 17 with respect to Claim 10, in

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the second complete paragraph on page 18 with respect to Claim 20 and/or Claim 22, spanning pages 19 and 20 with respect to Claim 5, in the first complete paragraph on page 21 with respect to Claim 12, on page 22 with respect to Claim 22, spanning pages 23 and 24 with respect to Claim 12 and/or Claim 16, in the first paragraph on page 25 with respect to Claim 26, in the third complete paragraph on page 26 with respect to Claim 25 and spanning pages 27 and 28 with respect to Claim 27. Examiner respectfully disagrees. As stated above in the rejection of Claim 5, Freimanis discloses use of an audio tone alerting (i.e., ringing indication) signal in the same voltage range as voice signals (column 1, lines 18-21) which applicant admits have a voltage amplitude less than 1V RMS (p. 1, lines 30-32) which is less than 30 V RMS. Further, as stated above in the rejection of Claim 5, Balachandran discloses increasing the start frequency of the data frequency band when a ring tone is detected (i.e., restricting the digital data band to avoid components of ringing indication) (column 9, lines 17-33). As such, Balachandran accomplishes exclusion of ringing signal components from the data band by shifting the data band. The claims do not exclude this method of excluding ringing signal components from the data band.

28. Applicant argues that one skilled in the art would not be motivated to combine Freimanis with applicant's admitted prior art. Applicant makes this argument in the response filed on 17 June 2004 in the first complete paragraph on page 12 with respect to Claim 5, spanning pages 13 and 14 with respect to Claim 12 and spanning pages 14 and 15 with respect to Claim 22.

Examiner respectfully disagrees. Freimanis teaches that high voltage ringing signals can damage networks and associated electronic components and that such damage can be avoided by using an audio tone alerting signal with a frequency and voltage range similar to voice signals (column 1, lines 14-21). As such, one skilled in the art at the time of the invention would be motivated to

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apply audio tone alerting as taught by Freimanis to the telephone system admitted by applicant as prior art for the purpose of avoiding such damage.

29. Applicant argues that one skilled in the art would not be motivated to combine Malerba with the combination of applicant's admitted prior art and Freimanis. Applicant makes this argument in the response filed on 17 June 2004 in the first complete paragraph on page 16 with respect to Claim 3, in the second complete paragraph on page 17 with respect to Claim 10 and spanning pages 18 and 19 with respect to Claim 20. Examiner respectfully disagrees. Malerba discloses that the use of a call (i.e., ringing indication) signal of the order of a few volts (i.e., having a voltage amplitude higher than 1 V RMS) is well known (column 1, lines 21-26). As such, one skilled in the art at the time of the invention would have been motivated to adapt the combination of applicant's admitted prior art and Freimanis to use a call signal as taught by Malerba for the purpose of making the combination compatible with a generally used system.

30. Applicant argues that one skilled in the art would not be motivated to combine Balachandran with the combination of applicant's admitted prior art and Freimanis. Applicant makes this argument in the response filed on 17 June 2004 in the first complete paragraph on page 20 with respect to Claim 5, in the second complete paragraph on page 21 with respect to Claim 12 and in the first paragraph on page 23 with respect to Claim 22. Examiner respectfully disagrees. Balachandran teaches that interference between voice and data transmissions in a DSL system can be reduced by increasing the low end of the data band so that frequency components of ringing voltage are not included (column 6, lines 46-58). ). As such, one skilled in the art at the time of the invention would have been motivated to apply the exclusion of ringing voltage frequency components from the data band as taught by Balachandran to the

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combination of applicant's admitted prior art and Freimanis for the purpose of reducing interference with the data signal.

31. Applicant argues that one skilled in the art would not be motivated to combine Williamson and Russell with the combination of applicant's admitted prior art and Freimanis. Applicant makes this argument in the response filed on 17 June 2004 in the first complete paragraph on page 24 with respect to Claim 16 and in the second complete paragraph on page 25 with respect to Claim 26. Examiner respectfully disagrees. The admitted prior art telephone system includes a high pass filter and a low pass filter for separating voice and data signals. Williamson discloses that in a DSL system a second-order low-pass filter has the desirable characteristic of reduced impedance transformation (column 6, line 66 through column 7, line 2). Russell discloses that use of a first order high-pass filter results in desirable attenuation of POTS signaling voltages (column 4, lines 34-39). As such, one skilled in the art at the time of the invention would have been motivated to apply the low order filters taught by Williamson and Russell to the combination of applicant's admitted prior art and Freimanis for the purpose of realizing the aforesaid advantages.

32. Applicant argues that one skilled in the art would not be motivated to combine Birck with the combination of applicant's admitted prior art and Freimanis. Applicant makes this argument in the response filed on 17 June 2004 spanning pages 26 and 27 with respect to Claim 25. Examiner respectfully disagrees. Birck discloses the desirability of isolating locally generated ringing voltage from the incoming line during ringing (column 1, lines 61-63). As such, one skilled in the art at the time of the invention would have been motivated to apply the ringing

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voltage isolation taught by Birck to the combination of applicant's admitted prior art and Freimanis for the purpose of realizing the aforesaid advantages.

33. Applicant argues that one skilled in the art would not be motivated to combine Tate with the combination of applicant's admitted prior art and Freimanis. Applicant makes this argument in the response filed on 17 June 2004 in the first complete paragraph on page 28 with respect to Claim 27. Examiner respectfully disagrees. Tate discloses the desirability of switching digital data signal processing equipment out of service during a power failure (column 1, lines 43-54). As such, one skilled in the art at the time of the invention would have been motivated to apply the switching taught by Tate to the combination of applicant's admitted prior art and Freimanis for the purpose of realizing the aforesaid advantages.

### ***Conclusion***

34. Applicant's amendment necessitated any new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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XU MEI  
PRIMARY EXAMINER